

Remarks

Claims 1-8 are pending in the application. Claims 1-5, and 8 have been rejected under 35 U.S.C. § 102(b), and claims 6 and 7 have been rejected under 35 U.S.C. § 103(a) in view of Grondahl. Claims 5 and 7 have been canceled by this Amendment, and thus only claims 1-4, 6 and 8 are at issue here. In view of the following remarks, reconsideration and withdrawal of these grounds of rejection is requested.

Examiner Interview

The Applicant thanks Examiner Nguyen for the courtesy of the Interview conducted on November 1, 2005. During the Interview, Applicant's representative (Darius C. Gambino) and the Examiner discussed proposed amendments to claims 1 and 8 in view of the Grondahl reference. The Examiner appeared to agree that Grondahl did not disclose, teach or suggest the invention as recited in the proposed amended claims, and thus Applicant has submitted the present Amendment.

Claim Rejections Under 35 U.S.C. § 102

Claims 1-5 and 8 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Grondahl (U.S. Pat. No. 5,936,464). For the reasons set forth below, reconsideration and withdrawal of this ground of rejection is respectfully requested.

The present invention comprises, in one exemplary embodiment, a signal transmission apparatus 100 including a base band signal generation and coding ("BBSGC") portion 110, a rectangular to polar converter 120, a phase modulator 130, a variable gain amplifier 140, and a digital amplitude restoration circuit 200.

In operation, the BBSGC portion 110 converts an input analog wave I into digital format and provides any necessary coding (see, specification, Paragraph [0016]). The digitized (and possibly coded) wave is then converted into polar format by the rectangular to polar converter 120, resulting in amplitude (m) and phase (ϕ) components (see, specification, Paragraph [0017]). The amplitude portion (m) is then provided to the digital amplitude restoration circuit 200 which includes an amplitude mapping circuit 210. The amplitude mapping circuit 210 converts the amplitude portion (m) into a binary value (e.g., with bits $b_1 - b_n$). The binary value (or digital word "DW" as it is also referred to in the specification) is applied to a series of power amplifiers through a digital gain control circuit 220 to control the gain level of the power amplifiers (see, specification, Paragraph [0021]).

Independent claim 1 now recites:

An apparatus comprising: an amplitude mapping circuit for converting at least a portion of an amplitude signal to a binary value; a plurality of gain control sources coupled to the amplitude mapping circuit; and, a plurality of amplifiers coupled to at least one of the plurality of gain control sources, wherein the binary value is transmitted to at least one of the plurality of amplifiers by at least one of the plurality of gain control sources to specify a gain level of the amplifier. [emphasis added].

Thus, claim 1 requires an "amplitude mapping circuit" which converts at least a portion of an "amplitude signal" into a "binary value." Claim 1 also requires that such "binary value" be transmitted to at least one of a "plurality of amplifiers" through one of a "plurality of gain control source"s to specify a "gain level." Grondahl fails to disclose, teach or suggest such an invention.

Grondahl teaches an Envelope Elimination and Restoration (EER) amplifier 10 which divides a signal to be amplified into amplitude and phase paths (See Fig. 1). The amplitude path

includes an envelope detector 220 and an envelope amplifier 270. The phase path includes a time delay element 230, limiter 240, driver amplifier 250, and power amplifier 260. The driver amplifier 250 includes a variable amplifier 252 which is driven by the output of an analog to digital (A/D) converter 257. The VGA 252, in turn, drives an amplifier stage 253.

Grondahl fails to disclose, teach or suggest an “amplitude mapping circuit” which converts at least a portion of an “amplitude signal” into a “binary value” and which transmits such “binary value” to at least one of a “plurality of amplifiers” through one of a “plurality of gain control sources” to specify a “gain level.” In fact, Grondahl does not disclose, teach or suggest the use of “gain control sources” in any manner. Hence, reconsideration and withdrawal of this ground of rejection with respect to claims 1-4 is respectfully requested.

Independent claim 8 now includes similar limitations to those discussed above with reference to independent claim 1, in particular the limitation of a binary value generated from a amplitude signal which is supplied to a “plurality of gain control sources” to specify the “gain level” of one of a “plurality of amplifiers.” Accordingly, for at least those reasons discussed above with reference to claim 1, reconsideration and withdrawal of this ground of rejection with respect to claim 8 is also respectfully requested.

Claim Rejections Under 35 U.S.C. § 103

Claims 6 and 7 stand rejected under 35 U.S.C. § 103(a) as being obvious over Grondahl in view of Choi (U.S. Pat. No. 6,765,439). As noted above, claim 7 has been canceled by this Amendment, and therefore only claim 6 remains at issue. For the reasons set forth below, reconsideration and withdrawal of this ground of rejection is respectfully requested.

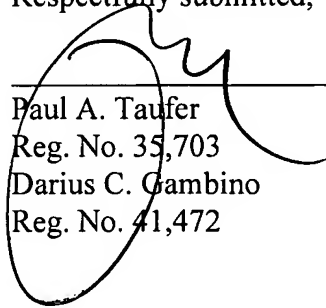
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As discussed in detail above, Grondahl fails to disclose, teach or suggest an “amplitude mapping circuit” which converts at least a portion of an “amplitude signal” into a “binary value” and which transmits such “binary value” to at least one of a “plurality of amplifiers” through one of a “plurality of gain control sources” to specify a “gain level” as recited in independent claim 1 upon which claim 6 depends. Hence, for at least those reasons highlighted above with reference to claim 1, reconsideration and withdrawal of this ground of rejection with respect to claim 6 is respectfully requested.

Conclusion

In view of the foregoing remarks, Applicants submit that this application is in condition for allowance at an early date, which action is earnestly solicited.

Respectfully submitted,



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